5.3 Multiplying Polynomials

**Methods:**

1. Distributive Property (can be used for all)
2. FOIL (only for a binomial times a binomial)
3. Box (can be used for all)

Ex 1 4x2 ( 3x2 – 6x + 3)

Ex 2 -5y ( 4y2 – 8y + 9)

Ex 3 ( 2x + 3) (x + 5)

Ex 4 ( x – 5) ( 3x + 4)

Ex 5 (3x – 2) ( 2x + 3)

Ex 6 ( 2x – 5) (4x – 3)

Ex 7 (2x – 7) ( 3x + 5)

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Ex 8 (4x - 3) ( 3x + 4)

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Ex 9 (2x – 3) (x2 + 2x – 5)

Ex 10 (x – 4) ( 3x2 – 5x +6)

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Ex 11 (m2 – m + 4) (m2 – 3m + 1)

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**Special Cases**

(a + b) ( a – b) = a2 – b2

(a + b)2 = a2 + 2ab + b2

(a – b)2 = a2 – 2ab + b2

If you memorize the rules, you can do the work faster and factoring will be easier.

If you don’t memorize the rules, you can use one of the 3 methods.